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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

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Reviewer: markspencer

Timestamp: [year=2008; month=8; day=8; hr=13; min=8; sec=29; ms=703;]

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Reviewer Comments:

SEQUENCE LISTING

<110> POLYPHOR LTD.
UniversitZ?

<120> Template fixed beta-hairpin mimetics and their use in phage
display

<130> P1338US

<140> PCT/US 10/579104

<141> 2006-05-12

<150> PCT/EP 03/12783

<151> 2003-11-15

<160> 44

<170> PatentIn version 3.4

Sequence listing files must be submitted in ASCII text format. This file contains non-ASCII text characters. Most likely at numeric identifier <110>. Please make all changes necessary to convert the entire file to the proper ASCII text format.

Application No: 10579104

Version No: 1.0

Input Set:

Output Set:

Started: 2008-06-27 17:41:31.566

Finished: 2008-06-27 17:41:34.737

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 171 ms

Total Warnings: 44

Total Errors: 14

No. of SeqIDs Defined: 44

Actual SeqID Count: 44

Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (2)
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W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
E 257	Invalid sequence data feature in <221> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
E 257	Invalid sequence data feature in <221> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
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W 213	Artificial or Unknown found in <213> in SEQ ID (11)
E 257	Invalid sequence data feature in <221> in SEQ ID (11)
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W 213	Artificial or Unknown found in <213> in SEQ ID (13)
E 257	Invalid sequence data feature in <221> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)

Input Set:

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Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (18)
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W 213	Artificial or Unknown found in <213> in SEQ ID (19)
E 257	Invalid sequence data feature in <221> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20) This error has occurred more than 20 times, will not be displayed
E 257	Invalid sequence data feature in <221> in SEQ ID (20)
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<210> 1
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<210> 2
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<212> PRT
<213> Artificial Sequence

<220>
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<400> 2

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<210> 3
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Key sequence known to occur in integrin alpha.sub4 beta.sub1, see Europ. J. Biol., 1996, 242, 352-362 and Int. J. Pept. Prot. Res., 1996, 47, 427-436.

<400> 3

Trp Leu Asp Val
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<210> 4
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Key sequence known to occur in Factor Xa inhibitors, see Al Obeidis, F.; Ostrem, J. A.; Drug Discovery Today, 1998, 3, 223-231.

<400> 4

Tyr Ile Arg Leu Pro
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<210> 5

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Key sequence known to occur in laminine, see EMBO. J., 1984, 3,
1463.

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<210> 6

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Key sequence known to occur in important physiologically active
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Ile Lys Val Ala Val
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<210> 7

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Key sequence known to occur in important physiologically active
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11007-11011.

<220>

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<222> (4)..(5)

<223> Xaa can be any naturally occurring amino acid

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Pro Pro Arg Xaa Xaa Trp
1 5

<210> 8
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wherein the alpha amino group of the first amino acid is
acetylated and wherein Z consists of 8 amino acids.

<220>
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<222> (1)..(10)

<220>
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<222> (1)..(1)
<223> ACETYLATION

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Cys Lys Trp Phe Leu Ala His Tyr Ala Cys
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<210> 9
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
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acetylated, wherein Z consists of 8 amino acids, and wherein both
R1 and R2 consist of 2 amino acids.

<220>
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<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(12)

<400> 9

Glu Thr Cys Lys Trp Phe Leu Ala His Tyr Ala Cys Thr Lys
1 5 10

<210> 10
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
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wherein the alpha amino group of the first amino acid is
acetylated and wherein Z consists of 10 amino acids.

<220>
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<222> (1)..(12)

<220>
<221> MOD_RES
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<223> ACETYLATION

<400> 10

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1 5 10

<210> 11
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 2 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(14)

<400> 11

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<210> 12
<211> 12
<212> PRT
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<220>

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wherein the alpha amino group of the first amino acid is
acetylated and wherein Z consists of 10 amino acids.

<220>

<221> DISULFID

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<220>

<221> MOD_RES

<222> (1)..(1)

<223> ACETYLATION

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<210> 13

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 2 amino acids.

<220>

<221> MOD_RES

<222> (1)..(1)

<223> ACETYLATION

<220>

<221> DISULFID

<222> (3)..(14)

<400> 13

Leu Glu Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Lys Val
1 5 10 15

<210> 14

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 2 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(14)

<400> 14

Asn Gly Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Lys Val
1 5 10 15

<210> 15
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 2 amino acids.

<220>
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<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(14)

<400> 15

Gly Gly Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Gly Gly
1 5 10 15

<210> 16
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
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wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 2 amino acids.

<220>

<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(14)

<400> 16

Glu Thr Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Thr Lys
1 5 10 15

<210> 17
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 3 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (4)..(15)

<400> 17

Glu Leu Lys Cys Thr Lys Trp Phe Ser Asn His Tyr Gln Thr Cys Glu
1 5 10 15

Val Lys

<210> 18
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 3 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (4)..(15)

<400> 18

Lys Val Gly Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Gly
1 5 10 15

Leu Glu

<210> 19
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2
wherein the alpha amino group of the first amino acid is
acetylated, wherein Z consists of 10 amino acids, and wherein
both R1 and R2 consist of 3 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (4)..(15)

<400> 19

Gly Gly Gly Cys Thr Lys Trp Phe Leu Ala His Tyr Ala Thr Cys Gly
1 5 10 15

Gly Gly

<210> 20
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula Cys-Z-Cys

wherein the alpha amino group of the first amino acid is acetylated and wherein Z consists of 12 amino acids.

<220>
<221> DISULFID
<222> (1)..(14)

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<400> 20

Cys Gly Thr Lys Trp Phe Ser Asn His Tyr Gln Thr Gly Cys
1 5 10

<210> 21
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Hairpin mimetic derived from the general formula R1-Cys-Z-Cys-R2 wherein the alpha amino group of the first amino acid is acetylated, wherein Z consists of 12 amino acids, and wherein both R1 and R2 consist of 2 amino acids.

<220>
<221> MOD_RES
<222> (1)..(1)
<223> ACETYLATION

<220>
<221> DISULFID
<222> (3)..(16)

<400> 21

Glu Thr Cys Gly Thr Lys Trp Phe Ser Asn His Tyr Gln Thr Gly Cys
1 5 10 15

Thr Lys

<210> 22
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Core peptide sequence Z taken from the CDR L3 loop of an antibody

described in Jiang, L. et al., Chimia, 2000,54, 558-563.

<400> 22

Leu Trp Tyr Ser Asn His Trp Val

1 5

<210> 23

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Modified core peptide sequence Z derived from core peptide sequence with the SEQ ID NO:22 containing a stabilizing beta-turn and a beta-sheet sequence according to Chou, P. Y., Fasman, G. D., J. Mol. Biol, 1977, 115, 135-175.

<400> 23

Lys Trp Phe Ser Asn His Tyr Gln

1 5

<210> 24

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Core peptide sequence Z constructed from peptide with the SEQ ID NO:25.

<400> 24

Phe Leu Ala His Tyr Ala

1 5

<210> 25

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Oligopeptide which does not contain a dedicated stabilizing beta-turn sequence or a beta-sheet sequence according to Chou, P. Y., Fasman, G. D., J. Mol. Biol, 1977, 115, 135-175.

<400> 25

Leu Trp Tyr Ser Asn His Trp Val Lys Trp

1 5 10

<210> 26

<211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide No. 1 used to construct insert DNA coding for
 template fixed hairpin mimetic of SEQ ID NO:10 and used to
 construct insert DNA coding for randomized library template fixed
 beta-hairpin mimetics having sequences according to SEQ ID NO:42.

 <400> 26
 catgcccggtg tacctttcta ttctcactct gaaacctgc 39

 <210> 27
 <211> 84
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide No. 2 used to construct insert DNA coding for
 template fixed hairpin mimetic of SEQ ID NO:10.

 <400> 27
 catgtttcgg ccgagccacc acctttggtg caggtctgat aatggttget gaaccatttg 60

 gtgcaggttt cagagtgaga atag 84

 <210> 28
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA sequence coding for the peptide shown in SEQ ID NO:8.

 <400> 28
 tgcaaattgt tcctggcgca ttatgcgtgc 30

 <210> 29
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA sequence coding for the peptide shown in SEQ ID NO:9.

 <400> 29
 gaaacctgca aatggttctt ggcgcattat gcgtgcacca aa 42

 <210> 30
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>

<223> DNA sequence coding for the peptide shown in SEQ ID NO:10.

<400> 30

tgcaccaa at gggttcagcaa ccattatcag acctgc 36

<210> 31

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA sequence coding for the peptide shown in SEQ ID NO:11.

<400> 31

gaaacctgca ccaa atgggtt cagcaaccat tatcagacct gcacaaa 48

<210> 32

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA sequence coding for the peptide shown in SEQ ID NO:12.

<400> 32

tgcaccaa at gggttcctggc gcattatgcg acctgc 36

<210> 33

<211> 48

<212> DNA

<213> Artificial Sequence

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<210> 34

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA sequence coding for the peptide shown in SEQ ID NO:14.

<400> 34

aacgggtgca ccaa atgggtt cctggcgcat tatgcgacct gcaaagtt 48

<210> 35

<211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA sequence coding for the peptide shown in SEQ ID NO:15.

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 <210> 36
 <211> 48
 <212> DNA
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 <220>
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 <210> 37
 <211> 54
 <212> DNA
 <213> Artificial Sequence

 <220>
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 gaactgaaat gcaccaaata gttcagcaac cattatcaga cctgcgaagt taaa 54

 <210> 38
 <211> 54
 <212> DNA
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 <220>
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 <400> 38
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 <210> 39
 <211> 54
 <212> DNA
 <213> Artificial Sequence

 <220>
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<210> 40
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA sequence coding for the peptide shown in SEQ ID NO:20.

 <400> 40
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 <210> 41
 <211> 54
 <212> DNA
 <213> Artificial Sequence

 <220>
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 <400> 41
 gaaacctgcg gtaccaaatg gttcagcaac cattatcaga ccggttgac caaa 54

 <210> 42
 <211> 48
 <212> DNA
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 <220>
 <223> DNA sequence of randomized template fixed beta-hairpin mimetic
 Phage library.

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 <222> (10)..(11)
 <223> n is a, c, g, or t

 <220>
 <221> misc_feature
 <222> (13)..(14)
 <223> n is a, c, g, or t

 <220>
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 <222> (16)..(17)
 <223> n is a, c, g, or t

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 <222> (28)..(29)
 <223> n is a, c, g, or t

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<221> misc_feature
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<222> (34)..(35)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (37)..(38)
<223> n is a, c, g, or t

<400> 42
gaaacctgcn nknnknnkcg tgggtgacnnk nnknnknnkt gcaccaaa

48

<210> 43
<211> 16
<212> PRT
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beta-hairpin mimetic phage library

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<220>
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<222> (4)..(6)
<223> Xaa can be any naturally occurring amino acid

<220>
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<222> (10)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 43

Glu Thr Cys Xaa Xaa Xaa Arg Gly Asp Xaa Xaa Xaa Xaa Cys Thr Lys
1 5 10 15

<210> 44
<211> 84
<212> DNA
<213> Artificial Sequence

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randomized library template fixed beta-hairpin mimetics having
sequences according to SEQ ID NO:42.

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<223> n is a, c, g, or t

<220>
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